

FEDERAL BUREAU OF INVESTIGATION
FOI/PA
DELETED PAGE INFORMATION SHEET
FOI/PA# 1204879-001

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RHC:AWK
80-604

Federal Bureau of Investigation
United States Department of Justice
Washington, D. C.

February 8, 1944

MEMORANDUM FOR MR. COFFEY *WJ*

Re: Secret Ink Research,
Interim Report.

The Aerosol experiments are in progress and indications are that commercial material such as Drene Shampoo will be inadequate as substitutes for Aerosol. It was found in connection with the Aerosol experiments that the grade of paper is important.

In connection with the Goldschmidt case it was found that a mixture of 40%

b3 Per CIA
b7E

The work on [redacted] has been previously reported to you and experiments are presently under consideration to determine the effect of longer periods of transfer.

We are now waiting for 5x7 Kodachrome film to be used in the work on the effect of light in connection with the aniline pencil secret ink process. *u*



Respectfully,

RECORDED
EX-1

D. J. Parsons

145
80-604-258

35 FEB 10 1944

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Mr. Tolson _____
Mr. E. A. Tamm _____
Mr. Clegg _____
Mr. Coffey _____
Mr. Glavin _____
Mr. Ladd _____
Mr. Nichols _____
Mr. Rosen _____
Mr. Tracy _____
Mr. Carson _____
Mr. Harbo _____
Mr. Hendon _____
Mr. Mumford _____
Mr. Piper _____
Mr. Starke _____
Mr. Quinn Tamm _____
Tele. Room _____
Mr. Nease _____
Miss Beahm _____
Miss Gandy _____

60 FEB 12 1944

THE DEVELOPMENT OF SECRET INK

There is set forth below the scheme for the treatment of letters suspected of containing secret ink writing as carried out in the FBI Laboratory. This scheme is presented to show exactly, in the light of our present knowledge, what must be done to detect or develop any one of the various enemy secret inks. It is expected that this paper will be of special value to espionage supervisors both at the seat of government and in the field. Such a scheme should give these supervisors an idea of the scope of the problem and aid them in deciding just how far they desire the laboratory to go in treating a document for secret ink. It may be advisable here to point out the difference between the detection of secret ink and the development of secret ink. By the former is meant the uncovering of the secret ink message insofar as a word or letter here and there is concerned. On the other hand the development of secret ink is the "bringing up" of the entire message either temporarily or permanently to the extent that the message in its entirety can be photographed.

The scheme as you will see is divided into three sections. The first section deals with the detection and development of secret ink by methods which will not alter the original appearance of the document in any way. The second section deals with the detection and development of secret ink by the application of certain chemical reagents or methods of detection to the paper. Such reagents will leave at most only faint visible traces of their application, the type of paper in the letter being the determining factor. In the third section is included those chemical reagents and methods for the development of secret inks which will permanently stain the paper.

SECTION I

This section, of course, will include those preliminary observations of the document which aid the examiner in the further testing of the document. Such observations are as follows:

- I. Visual examination under ordinary light.
 - A. Examination of text of letter for secret ink
· code names and signal devices.
 - B. Examination of text of letter for its content.
 - C. Examination of paper by hand lens for signs of discoloration, surface fiber disturbance, indentations and of the characters in the visible text for signs of feathering, the double ink method and the supercharging method of secret writing.
 1. Feathering is the result of the visible ink touching the secret ink or vice versa causing the penned lines to broaden and have rough edges.

80-604-249

ENCLOSURE

Discussed
at Supervisors
Conf. 6-1-47
Stanley

257.

2. The double ink method is the use of two different types of visible ink. If care has not been taken a distinction can often be determined in this manner between the two inks.
3. The supercharging method is the application of a chemical to various letters or words of the visible text so they will react to a developer.
- D. Examination of the paper for signs of secret ink protection.
 1. Protection is accomplished by uniformly disturbing the fibers of the paper over its entire surface or by coating the paper with some suitable material.
 2. One of the most common methods has been by the application of water in one form or another to the paper and allowing it to dry [REDACTED]
[REDACTED]
 3. The various means of protection can often be detected if the agent has not been too careful in the application of the protective device.

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The ultraviolet light is the first testing method in this section. It has no effect on the document. Obviously the enemy is not going to employ materials which are known to fluoresce, consequently, the chief use of this light either alone or in conjunction with chemicals is as a means of detection for secret ink. It is difficult to prepare a list of the enemy secret inks which can be detected by this method since there are many variables which must be taken into consideration. An outlined discussion follows:

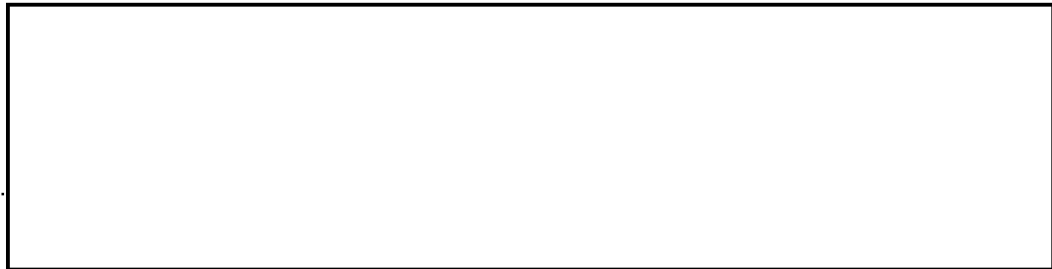
- I. Variables in the detection of secret ink by the ultraviolet light.
 - A. The material used as the secret ink.
 1. For detection by this method the material must either
 - (a) Fluoresce by reflecting the ultraviolet rays (true fluorescence)
 - (b) Fluoresce by absorbing the ultraviolet rays.
 - (c) Affect the paper so that there will be a differential absorption or reflection of the ultraviolet rays by the paper and the paper plus the secret ink.
 - B. Concentration of the material used.
 1. Many materials fluoresce at one concentration but not at another.
 - C. The paper used.
 1. The variation in the fluorescence of paper of various grades and composition is wide.
 2. Obviously if the type of fluorescence of the

material used as the secret ink is the same as the paper then there will be no detection under the ultraviolet light. However, the agent is not always able to obtain the right paper and a difference in fluorescence would expose the secret ink.

- D. The wave length of the ultraviolet light.
 - 1. Some materials will fluoresce more at one wave length than at another, thus necessitating the use of filters of different wave lengths.
 - (a) This has not as yet proved necessary in our laboratory.

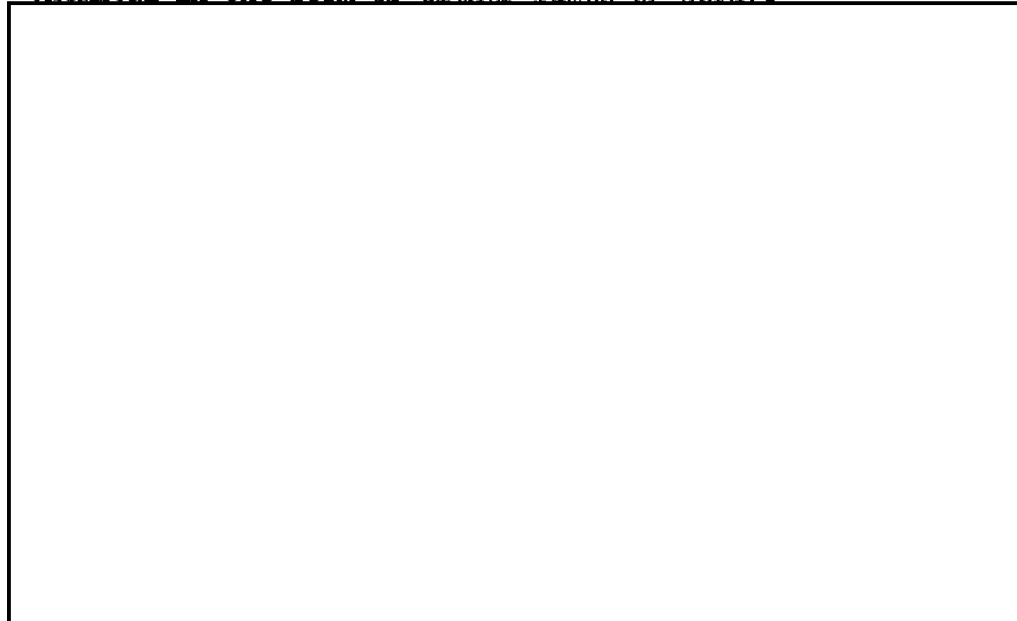
II. Detection of inks by the ultraviolet light alone.

- A. The following inks may be detected either because of the secret ink material itself or because the enemy agent has made a mistake in his concentration or in his protection.



b3 Per CIA
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III. Detection of inks by the ultraviolet light plus a chemical in the form of either fumes or spray.



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- 1. Those inks which will react with this substance to produce a fluorescent compound. Of the many substances affected the most important is 



80-604

b6
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b7D

American Embassy

December 11, 1943

Communication #2126

PERSONAL AND CONFIDENTIAL
VIA DIPLOMATIC AIR COURIER POUCH

Mr. J. Edgar Hoover
Federal Bureau of Investigation
Washington, D. C.

Attention: Liaison Section

Dear Sir:

Reference is made to Bureau letter dated October 22, 1943
which advised that [redacted] recently furnished the Bureau information
received [redacted] to the effect that [redacted]

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b7E

The Bureau requested that the writer check [redacted]
[redacted] regarding [redacted] and if
possible, supply the Bureau [redacted] for study in
the Technical Laboratory, or if a [redacted] is not available, obtain
good photographs of the [redacted] together with a complete description
of it.

Upon receipt of the Bureau's letter, requests were made
of [redacted]
for [redacted] of a photograph thereof, together with
descriptive data. Recently, [redacted] informed that [redacted]
[redacted] had no information in addition to that which would
[redacted] I am now in receipt of the following letter
dated December 7, 1943 from [redacted]

b7D

[Large redacted block]

b7D

ORIGINAL FILED IN

Handwritten: Selections & Production of Secret
Index & Writing

63 JUN 9 1944

RECORDED
INDEXED
71

80-604-248
FEDERAL BUREAU OF INVESTIGATION
1944
U.S. DEPT. OF JUSTICE

Mr. J. Edgar Hoover

-2-

b7D

With regard to [redacted] reference [redacted]
report which was forwarded to the writer on September 27, 1943,
your attention is invited to my Communication #1646 of October 7,
1943, entitled "JOSEPH H. P. JANSSENS, [redacted] which
transmitted a copy of this report to the Bureau.

b7E

Very truly yours,

Arthur M. Thurston
Legal Attaché

AMT:wgr
Enclosures



JPS:RCD
80-604

**Federal Bureau of Investigation
United States Department of Justice
Washington, D. C.**

December 13, 1943

Mr. Tolson _____
Mr. E. A. Tamm _____
Mr. Clegg _____
Mr. Coffey _____
Mr. Glavin _____
Mr. Ladd _____
Mr. Nichols _____
Mr. Rosen _____
Mr. Tracy _____
Mr. Acers _____
Mr. Carson _____
Mr. Harbo _____
Mr. Hendon _____
Mr. Mumford _____
Mr. Starke _____
Mr. Quinn Tamm _____
Tele. Room _____
Mr. Nease _____
Miss Beahm _____
Miss Gandy _____

MEMORANDUM FOR MR. COFFEY

Re: Visit of Dr. ~~Breon~~ and Mr. A. H.
~~Blagg~~ of Censorship.

This morning Dr. Breon of the American Censorship laboratory phoned me and requested that he be allowed to bring Mr. Blagg, who is the Chief Chemist in their Miami station, to my office for a short technical discussion on the various problems, particularly the Juan Enriques case. He was informed to come right over and on their arrival they were turned over to Stanley who discussed the following problems with them.

First, in regard to the Juan Enriques case, Dr. Breon was particularly interested in the type of secret ink which was discovered in the laboratory on the last letter in this case. He was informed that a definite identification had not been accomplished as yet, but that the secret ink was developed by means of the "simple" solution giving a resist and could also be developed by simply placing the document in water. However, they were informed that development by water and apparently development by method both affected the secret ink so that it could no longer be developed by these two reagents. He was informed that at the present time the main objective in regard to this particular letter was in obtaining an exact simulation of the type of paper used and that as soon as this was accomplished further work would be done on the secret ink with the purpose in mind of fully identifying it. A discussion was held on the various possibilities as to what the secret ink might be and Breon was told that it was definitely believed not to be the same type of ink formerly used by Enriques. Dr. Breon was informed that as soon as further developments were made in this particular case he would be duly notified.

At the request of Mr. Stanley Dr. Breon enumerated the number of chemical tests which the various censorship stations are applying to mail for the purpose of detecting secret writing. There were six such tests in all. With the exception of one, namely the

which is admittedly a messy test, all of these tests are used at present in our laboratory. Dr. Breon informed Mr. Stanley that although the above mentioned test is messy and is difficult to apply, it is a very sensitive test for Dr. Breon agreed with Mr. Stanley however that



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of development and therefore it would be unwise to use such a messy test for the purposes of this laboratory.

Dr. Breon further advised Mr. Stanley that he had recently received from [redacted]

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[redacted]
Breon also stated that [redacted]

Mr. Stanley asked Dr. Breon how [redacted] were

Dr. Breon stated that [redacted]

Dr. Breon asked Mr. Stanley what method was used in "cleaning up" the last letter in the Altschuler case and he was informed that the ordinary method of treating documents with [redacted] fumes followed by a thorough treatment with ammonia fumes was the procedure used. Dr. Breon stated that he thought that that particular letter had been well cleaned in proportion to the amount of secret ink writing found on the document. Dr. Breon further stated that he had done more research on the ink used in this case and that he was still of the opinion that this ink was [redacted]. However, Mr. Stanley informed him that he was still skeptical in this regard believing that further work must be done before conclusive answers can be given.

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A short discussion was also had on the last Collantes letter and in this regard Breon stated that they had received reb3 Per CIA [redacted] a new developer which is more sensitive than thb7D [redacted] used in this case and stated that he wb7E see that the Bureau received a copy of this developing solution formula.

Dr. Breon had with him a recent submission in the Vasquez case which was recently returned to Censorship with the statement that the Bureau believed this letter to have been previously treated. Dr. Breon stated that the previous treatment could have easily been done by British Censorship station in Trinidad inasmuch as letters emanating from South American Countries often pass through that censorship station before coming into the possession of the American censorship.

Dr. Breon also stated that he would furnish the Bureau with a copy of the ~~aniline~~ report spoken of above and also a copy of the formula for [redacted] testing solution.

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RECOMMENDATION:

In regard to the above discussions of [redacted]

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it may please you to know that work is already begun in the laboratory with the idea in mind, first [redacted] and secondly to add any improvements or refinements in the technique of developing such secret inks. However, for any appreciable headway on such a project it will require the undivided attention of at least one chemist and it is hereby suggested that a chemist be assigned to this project for a period of approximately three weeks. Due to the extensive work which Mr. Magee has done with this type of secret ink in connection with the Cocase, it is recommended that he be assigned to this project. However, this doesn't necessarily mean that Mr. Magee will not have periodic aid and advice from other members of the secret ink section.

Respectfully,

T. D. Peach

T. D. Peach

*OK when all delinquents
are up-to-date.*

~~CONFIDENTIAL~~
HEADQUARTERS
UNITED STATES ARMY FORCES
IN THE MIDDLE EAST
Office of G-2.

b6
b7C

1/30
Cairo, Egypt.
October 16, 1943.

lg
SUBJECT: Enemy Secret Writing Methods in the Middle East -
Paper 2.

TO: AC of S, G-2, War Department General Staff,
War Department, Washington, D. C.

*Selection of items from recent intelligence
worth the attention of the War Department*
1. With further reference to Memo, this office dated
September 26, 1943, the enclosed Summary of information,
received from Chief, C.I.C., USAFME, pertaining to the above
subject, is forwarded for your information.

For the AC of S, G-2:

PAUL L. E. HELLIWELL
Major, F. A.
Asst. AC of S, G-2.

• Summary (In duplicate)

ORIGINAL COPY FILED IN

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*Ref. w/ind
ME - w/ind
CIG - w/ind*

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CONFIDENTIAL
(Equals British CONFIDENTIAL)

C.I.C.
USAF/IE

Cairo, Egypt,
14 October 1943.

SUMMARY OF INFORMATION.

SUBJECT: Enemy Secret Writing Methods in the Middle East - Paper 2.

The following paper on secret inks known to have been used by the Germans was issued in March 1943 to officers engaged in the examination of travelers arriving in the U.K.

1. [REDACTED] This is manufactured by Dayer. A quarter of a tablet should be dissolved in a small quantity of 90% alcohol. Writing is done with a toothpick, the point of which is wrapped in cotton wool. Write in block letters and allow the page to dry in the open air all night.

To develop: spread a layer of [REDACTED] over the surface of the paper, and in a short while the message can be read by holding the paper up to the light.

2. Aniline pencil @ indelible pencil. Take an ordinary indelible pencil and, on a piece of white paper draw a square or rectangle. Then take the pencil and pencil in the entire square, rubbing it over afterwards with a piece of cotton wool, so that the surface is quite smooth.

Then take the paper on which the letter is going to be written and place the penciled paper on top of it, pencilled side downwards, keeping it firm by placing two rulers on either side, and putting a piece of glass or cardboard for the hand to rest on.

Then write the message, making sure that it comes within the pencilled rectangle. The paper underneath can then be written on the same side, or both if desired, but only with a pencil which has had the point burnt, or with Indian ink.

3. Acid offset. A transfer can sometimes be obtained by tightly pressing a blank sheet of paper upon a sheet containing a message in ordinary blue-black or printer's ink. A "transfer" results on the blank sheet of paper which can subsequently be developed with a solution containing [REDACTED]

4. [REDACTED] (see also Addendum). Dissolve [REDACTED] pill in two table-spoons of water. Leave to stand for half an hour and then write on white unlined paper with a rough surface, using a toothpick wrapped in cotton wool.

To develop: Rub the surface with [REDACTED] The message will then fluoresce under U.V. lamp.

5. Pyramidon. Dissolve one tablet of pyramidon in about an inch of

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(Equals British CONFIDENTIAL)

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JWM:RCD
80-604

December 23, 1943

~~SECRET~~

MEMORANDUM FOR MR. COFFEY

Re: Ernest Frederick Lehmitz
with aliases, et al.

~~ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED EXCEPT
WHERE SHOWN OTHERWISE~~

Class. & Ext. By SP1 GSK/94

Reason - FCIM II, 1-2.4.2 3

Date of Review 3/30/92

3/30/82

FOIPA # 218,239

In accordance with your instructions Mr. Magee
went to the Atlanta penitentiary and interviewed Lehmitz on
December 22, 1943, concerning secret writing developed by
Lehmitz.

Lehmitz reviewed the process of developing secret writing
received by him from the Germans. This process involved the placing
of a solution of [redacted] on a 5¢ piece, allowing the
solution to dry, placing water on the nickel and using the resulting
solution for developing the secret writing. Lehmitz was questioned
at some length concerning the coin to be used and he stated the
Germans made it very plain to him that nickel was an essential element
in the process.

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Lehmitz stated that he was unable to develop fully the
secret writing on the letters he received from the Germans, however,
he was able to develop several words. Lehmitz stated the writing
that he was able to develop was a pinkish red. He further stated
that the back ground remained relatively clean or white. At this
point Mr. Magee took several nickels or 5¢ pieces and a solution of
[redacted] and went through the process of preparing the developing
reagent with Lehmitz. Lehmitz recalled that his preparation of the
developing reagent proceeded in exactly the same manner as that
demonstrated to him by Mr. Magee. Shortly before [redacted] on one
of the nickels became decolorized, a bit of the solution was taken
Mr. E. A. Tamm on a cotton swab and used to develop a secret writing test message
Mr. Clegg written [redacted] After development the test message
Mr. Coffey appeared as dark brown characters on a light brown background.
Mr. Glavin Lehmitz stated immediately that this was not similar to the writing
Mr. Ladd which he developed. [redacted] on the nickels was allowed
Mr. Nichols to evaporate to dryness, after which the nickels were moistened with
Mr. Rosen water and this solution used to develop a test message prepared with
Mr. Tracy [redacted] Immediately upon seeing the developed message
Mr. Carson Lehmitz stated that the color was identical with the secret writing
Mr. Harbo which he developed on the letters received from the Germans.

b3 Per CIA
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Lehmitz was questioned to some length concerning whether
he applied water or [redacted]
solution had evaporated. He was a [redacted] confused concerning the use of

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&
INDEXED

U. S. DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION

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b3 Per CIA
b7E

Mr. Tolson
Mr. E. A. Tamm
Mr. Clegg
Mr. Coffey
Mr. Glavin
Mr. Ladd
Mr. Nichols
Mr. Rosen
Mr. Tracy
Mr. Carson
Mr. Harbo
Mr. Hendon
Mr. McGuire
Mr. Mumford
Mr. Piper
Mr. Quinn Tamm
Mr. Nease
Miss Gandy

~~SECRET~~

ammonia because of the part ammonia played in the secret writing messages which he, Lehmitz, prepared and sent to the Germans. In order to ascertain whether the pinkish-red color which was demonstrated to Lehmitz was a result of a compound similar to that used by the Germans, a third test message was developed for Lehmitz in which the developing solution consisted of ammonia being placed on the nickel instead of water. This message was written with alpha [redacted] and upon development was a yellow-orange color. Lehmitz stated this was not similar to the writing which he developed.

b3 Per CIA
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In this connection it can be stated that regardless of whether Lehmitz used water or ammonia on the nickel after [redacted] solution, if the writing appeared pinkish-red, the secret ink was undoubtedly [redacted] and the color of the developed writing would not be materially affected regardless of the use of ammonia or of plain water.

Lehmitz was extremely cooperative throughout the interview which was conducted in the presence of Special Agent Durfee of the Atlanta office. No prison guard was present. Lehmitz expressed his appreciation for the treatment he received at the hands of the Bureau and especially Special Agents Roy Meadows and John Willis of the New York office.

Agents Durfee and Magee expressed their appreciation to Warden Joseph W. Sanders for his many courtesies in making this interview possible.

RECOMMENDATION:

In view of the information developed by Mr. Magee in Atlanta, I would like to recommend that [redacted] American Censorship be advised of the use of [redacted] as a secret ink by the Germans. (S) (U)

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Mr. Tolson _____
Mr. E. A. Tamm _____
Mr. Clegg _____
Mr. Coffey _____
Mr. Glavin _____
Mr. Ladd _____
Mr. Nichols _____
Mr. Rosen _____
Mr. Tracy _____
Mr. Carson _____
Mr. Harbo _____
Mr. Hendon _____
Mr. McGuire _____
Mr. Mumford _____
Mr. Piper _____
Mr. Quinn Tamm _____
Mr. Nease _____
Miss Gandy _____

Respectfully,

T. D. Beach.

~~SECRET~~

Mr. Tolson _____
Mr. E. A. Tamm _____
Mr. Clegg _____
Mr. Coffey _____
Mr. Glavin _____
Mr. Ladd _____
Mr. Nichols _____
Mr. Rosen _____
Mr. Tracy _____
Mr. Acers _____
Mr. Carson _____
Mr. Harbo _____
Mr. Hendon _____
Mr. Mumford _____
Mr. Starke _____
Mr. Quinn Tamm _____
Tele. Room _____
Mr. Nease _____
Miss Beahm _____
Miss Gandy _____

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b7C



RHC/JPS:RCD

80-604

**Federal Bureau of Investigation
United States Department of Justice
Washington, D. C.**

December 3, 1943

~~CONFIDENTIAL~~

MEMORANDUM FOR MR. COFFEY

Re: Secret Ink Research
Interim Report

*Beatty
Chambers
Moyes
Stanley*

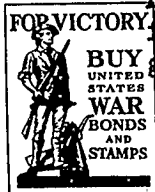
A secret ink has been developed recently which is of a quality suitable for use by our agents. The ink is [REDACTED]

[REDACTED] This ink is protected by a dampening process which eliminates the necessity for pressing the finished letter; in other words, by this process, the writing of a safe secret ink letter with a liquid ink is much easier than formerly. The dampening process utilizes the same solvents as those used in the ink itself but contains [REDACTED]. So far tests have shown that this method resists censorship testing and has one specific simple developer, which is hot water. Further refinement of this method is necessary in connection with the transportation of materials, etc.

Two new [REDACTED] were synthesized in the laboratory for use in connection with the talcum powder method of secret ink writing in order to supply a change of secret ink content in the powders. Work is still in progress in connection with these new compounds.

[REDACTED]

Having in mind the necessity of development of successful and simple two-way secret inks, work was begun to develop a suitable way for agents to carry the necessary reagents. Pepsodent tooth liquid, which is green, was found to be a satisfactory vehicle for [REDACTED] which is also green in color. This preparation can be used as a simple direct developer for a good secret ink material, namely, the [REDACTED] referred to in the paragraph above. This tooth liquid could also feasibly be diluted and used as a secret ink which in turn could be developed by this same [REDACTED] upon receipt of a letter produced from the Pepsodent tooth liquid. It is felt that this sort of set up can be worked out with the use of a good many commercial products such as mouth wash, after-shave, etc.



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*per 6 PC
JWM*

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b3 Per CIA
b7E

Research was conducted on the use of a secret ink system composed of [redacted] whereby either may be the secret ink or the developer. So far indications are that these substances would be impractical to use due to the concentration of the materials involved. However, refinements in technique may be accomplished through further research and these substances at this time are not being discarded. Research was also conducted on the use of whole blood as a secret ink, however, difficulties were encountered in the development of such a secret ink by [redacted] because of the effect of the glacial acetic acid on the paper. Further research is contemplated to ascertain if acids other than glacial acetic acid may be used in conjunction with this test.

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As a result of recent request from the Office of Strategic Services, research was conducted for the purpose of producing a simple secret ink to be used in China and having as much security as possible along with the simplicity and ease of availability. The following substances were considered:

tobacco
paraffin
[redacted]
tea
rice water
[redacted]

b3 Per CIA
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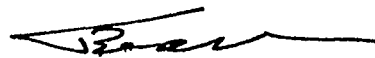
From research on the above inks it was found that tea would probably serve the purpose best. However, at the present time we are waiting upon native Chinese paper to be forwarded to us by OSS so that further research can be accomplished under more practical conditions.

Considerable library research is being conducted with reference to photomechanical processes for their possible use in connection with secret inks.

A system of removing [redacted] from paper was devised which utilizes concentrated ammonia fumes, thereby avoiding the use of steam and giving more satisfactory results when used in conjunction with [redacted]

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b7E

Respectfully,



T. D. Beach

good work
EW

P

NOT USED

80-604-253

CHANGED TO

100-221087-1X

December 20, 1943

MR. E. A. TAMM

Re: Secret Ink Testing on
 Letter from Tulio to Senor Don Aurelio
 Lainez Anaya, and
 Letter from Esteban to Senor D. Enrique
 Pardo Vasquez

When submitted to the Laboratory the two letters in these cases were brought over personally by Mr. Wolgemuth and Dr. Breon, the secret ink^{b3} Per CIA chemist of Censorship. The Censorship officials advised that the letter from Tulio was stopped by them.

They made an examination of it and detected secret ink in the form of [redacted] b7E
 [redacted] They made these tests with staining solutions of [redacted] developing reagent. The letter was badly stained and the secret ink writing which they had photographed had then disappeared. The letter was in such shape that it would have to be condemned. The secret ink message, of which they showed us a photograph, was in alphabetical code.

The letter from Esteban was, according to the Censorship officials, stopped by them because its addressee was on their watch list from the FBI. They brought the two letters over together, however, because they were struck by similarities in the preparation of the two letters, to the point that they suspect they might have originated from the same individual. This second letter (from Esteban) had been opened by Censorship by slitting. However, Mr. Stanley, our secret ink chemist with whom they conferred, was given to understand by Dr. Breon that Censorship had not tested this letter.

Mr. Tolson
 Mr. E. A. Tamm Stanley proceeded to work on the Esteban letter. His preliminary examination caused him to note on his work sheet that the letter had every indication of having been previously dampened and that that might be due to the presence of a secret ink message or it might be due to previous work on it by Censorship in the form of [redacted] At this time, Stanley discussed the case with Supervisor Bailey and advised him that the letter gave indication of having been previously dampened and suggested to him that they could [redacted] had been previously tested by Censorship. Stanley discussed with Bailey whether it was possible to stain this letter or whether it was desirable to go on through to the addressee unstained in order to avoid suspicion. Mr. Herben decided that since it was the first letter detected in the case it would be highly desirable if it could be arranged for the letter to go on through to the addressee without suspicion and arrangements were made to obtain Censorship's permission to forge or simulate the letter in the event it became necessary to stain it in the testing process.

Mr. Quinn Tamm
 Mr. Nease
 Miss Gandy

ORIGINAL FILED IN

b3 Per CIA
b7E

Memo Mr. Tamm

b3 Per CIA
b7E

Stanley ran other tests directly on the original letter but was successful in his conduct of these tests so that no staining resulted and it would not become necessary for a forged or simulated copy of the letter to be prepared.

He ultimately, on December 8, 1943, finished his testing and reported to the #1 examiner that the specimens had been examined for the presence of secret ink with negative results.

I am advised that Censorship was informed by the FBI that Stanley had detected evidence of previous testing on this letter.

Subsequently, on December 13, Dr. Breen called at our Laboratory, discussing several matters. He also brought with him the original Esteban letter together with what he said was the FBI technical report. He referred to the statement in the report that we believed this letter to have been previously treated. He explained that such previous treatment could have been done easily by the British Censorship officers at Trinidad inasmuch as such letters emanating from South American countries often pass through Trinidad before coming into the possession of American Censorship. He questioned Stanley closely as to what evidence there was on the letter of this previous treatment. Stanley told him that the indications of the previous treatment were no longer apparent for the reason that his (Stanley's) testing and finishing had corrected these indications.

Mr. Tolson I was informed this afternoon by Mr. Ladd that he had just received information to the effect that Censorship had successfully developed secret ink on this Esteban letter and furthermore that Price of Censorship was going to bring this incident as an argument with the Director that his secret ink laboratories were superior to ours and on this basis request modification of the existing agreement between FBI and Censorship for the testing of letters.

Mr. Nichols I have not been able yet to determine what kind of secret ink was developed by Censorship nor in what manner. This information is very important before we can further study this case from the technical standpoint. I have gone over the matter with both Beach and Stanley in detail.

Mr. Hendon It is to be observed that one rather unusual occurrence took place in connection with this case. I am advised that the Esteban letter was returned to Censorship on or about December 9 with a statement that our findings were negative and I am further of the understanding that Censorship was given specific instructions from FBI at that time to forward the letter on to the addressee untouched. It will be observed that Censorship did not do this and that subsequently, on December 13 Dr. Breen of their secret ink laboratories came in to

Memo Mr. Tamm

see Stanley and Beach and carried the letter with him four days after it was supposedly to be sent on its way. The action of Dr. Breon in bringing in a letter of this kind was also without precedent.

As soon as additional information can be obtained as to the method used by Censorship in developing secret ink a further report will be submitted. The information also specifically needed now is just when Censorship developed secret ink. You will observe that our man discovered indications of previous testing. If Censorship developed this secret ink before they gave us the letter at all then it is quite possible that that took the ink off the letter and would account for our inability to transfer it.

b3 Per CIA
b7E

Respectfully,

E. P. Coffey.

Mr. Tolson _____
Mr. E. A. Tamm _____
Mr. Clegg _____
Mr. Coffey _____
Mr. Glavin _____
Mr. Ladd _____
Mr. Nichols _____
Mr. Rosen _____
Mr. Tracy _____
Mr. Carson _____
Mr. Harbo _____
Mr. Hendon _____
Mr. McGuire _____
Mr. Mumford _____
Mr. Piper _____
Mr. Quinn Tamm _____
Mr. Nease _____
Miss Gandy _____

WJP:ed

December 20, 1943

MR. D. M. LADD

Mr. Philip Wolgemuth, Executive Liaison Officer, Office of Censorship, informed Supervisor W. J. Powell on this date that the officials of the Office of Censorship were contemplating a visit to Mr. E. A. Tamm's office within a day or two.

Wolgemuth, after swearing Powell to secrecy, recalled the fact that Censorship had intercepted a communication going from one "Julio" or "Tulio", Buenos Aires, Argentina, to Senor Don Aurelio Lainez Anaya, Calle Narvaez 12, Madrid, Spain, postmarked October 21, 1943, and the Censorship Laboratory developed secret writing on this letter. The Censorship Laboratory did the testing due to the fact that the addressee was not posted on the Bureau's Special Watch List. The letter in question was forwarded to the Bureau for its information and the condition of the letter was such that it could not be forwarded on to the addressee and was condemned upon the Bureau's recommendation.

It was further recalled that the secret writing found on this letter mentioned the letter to be number 54. Shortly thereafter, Censorship intercepted a communication going from Buenos Aires to Enrique Pardo Vasquez, General Mola 4, 30 der., Madrid, Spain, postmarked October 29, 1943, and since the addressee on this communication was on the Special Watch List in favor of the Bureau, the letter was delivered to the Bureau for examination without prior testing by the Censorship Laboratory. This procedure was in accordance with the agreement between the Bureau and Censorship on letters going to, from, or concerning individuals on the Special Watch List. The latter communication was set up almost identically with the former communication to Anaya, especially so when the writing paper was viewed as well as the stamp arrangement. Due to this fact, Dr. Brion of the Censorship Laboratory appeared at the Bureau Laboratory and spoke to Mr. Stanley of the Document Section in order to give his views and experience in the development of secret writing on the Anaya letter, feeling that this information would assist in the examination of the Vasquez letter.

Mr. Ladd The Vasquez letter was delivered to the Bureau Laboratory on November 22, 1943, for examination, and on December 2nd permission was requested by letter of the Office of Censorship to mutilate this letter if the same became necessary because extensive examination was going forward on the piece of mail. The findings of the Bureau Laboratory were that no secret ink was found and no conclusion could be reached with reference to whether the Anaya letter was written on the same typewriter or by the same individual as the Vasquez letter, further that there was no evidence of open code. Based on these findings, Supervisor V. H. Bailey of Division 5 recommended that the communication be passed on to the addressee and the original communication was returned to Censorship on December 20, 1943.

Mr. Mumford
Mr. Starke
Mr. Quinn Tamm
Mr. Nease
Miss Gandy
Wolgemuth has now advised that Censorship found secret writing on the Vasquez letter, and since their findings were affirmative and the Bureau's findings negative as to secret writing, Censorship officials now feel that their opinion stands to the effect that the Censorship Laboratory can do as good a job or even better than the Bureau Laboratory.

b7D
b7E

ORIGINAL FILED

As you will recall, one of the contentions prior to the signing of the new agreement between the Bureau and Censorship was that the Bureau Laboratory should be afforded an opportunity for testing all original communications bearing on individuals on the Special Watch List prior to any tests on the part of the Censorship Laboratory. Censorship for a long time disagreed with the Bureau's position in this regard and steadfastly felt that such a practice would be delegating a Censorship function to the FBI. After a great deal of quibbling, which resulted in the severance of relationship between the Bureau and the Office of Censorship, the new agreement was adopted July 12, 1943, into which the Bureau's position was incorporated and the Bureau Laboratory has been, since that date, receiving original communications for examination untested by the Censorship Laboratory.

The technicians of the Censorship Laboratory have been very jealous of this clause in the agreement since it has deprived those technicians of an opportunity to work on suspected communications. It appears now, as verified by Wolgemuth, that the Censorship Laboratory personnel intend to use this instance as an example wherein Censorship has outdone the Bureau, and they have taken the matter up with Colonel Shaw of the Office of Censorship and Mr. Price, Director of Censorship.

Wolgemuth went further and informed that Mr. Price intends to take the matter up with Mr. Tamm in the very near future and that the Laboratory men in Censorship are doing everything possible in order to have an amendment made to the new agreement which may in effect take the form of permitting Censorship to do all of the examining. Wolgemuth continued that he was doing everything possible in order to have Censorship present this problem to the Bureau officials in a gentlemanly way so that "silly squabbles" would not be the outcome and that is why he recommended that the matter be thrashed out with Mr. Tamm orally.

Wolgemuth said that Censorship was put in the middle in this matter since the Bureau Laboratory found no secret writing and recommended that the communication be passed. Now that secret writing is in fact found, if the Bureau's recommendation had been followed, the security of the country would be endangered. The effect of such errors would also mean that Censorship in the future would have little faith in the Bureau's recommendation on a communication for fear that the letter which was cleared by the Bureau might bear information which would cost the lives of many of the military personnel in combat. Although Wolgemuth was questioned as to the type of message developed on the Vasquez letter, he was unable to furnish it since he informed that he only heard that a message was developed and did not have an opportunity to view it.

As it is noted heretofore, Wolgemuth presented this information in the form of a tip and he continually stressed the necessity for Powell to "keep it under his hat". In line with this, it is obvious that at the anticipated meeting with the Censorship authorities, every precaution should be taken to have them believe that the Bureau is receiving this information for the first time. Any disclosure of the fact that Wolgemuth has tipped the Bureau off would endanger his position with his superiors.

Respectfully,

G. C. Burton

WIPied

January 5, 1944

MR. D. M. LADD

Mr. Philip Volgemuth advised the writer on this date that Colonel Shaw of the Office of Censorship asked him to contact the Bureau and request a laboratory report on the results of the examination on the letter addressed to Enrique ~~Parso~~ Vasquez, Madrid, Spain, postmarked October 9, 1943.

As you know, this is the letter that was originally examined in the Bureau Laboratory and returned to Censorship with the comment that no ink was found on the communication and that thereafter the Office of Censorship notified the Bureau that it had developed secret ink on the communication after it had been returned to that agency.

Ordinarily the agreement between the Bureau and the Office of Censorship binds the Bureau to submit the results of its examinations to the Office of Censorship when the examination results in the finding of secret ink. The agreement, however, does not bind the Bureau to submit a report of its findings when no secret writing or other positive results are found.

When this request was made by Volgemuth, he was asked by the writer for the reason why Colonel Shaw should request the results of the examination in this case since the Office of Censorship developed the ink and had photographed the same. Volgemuth replied that Colonel Shaw felt that the Bureau's examination which goes beyond a development of secret ink and into an examination of the paper, a comparison of the handwriting against the National Security Files, as well as a comparison of the handwriting in instant letter with that of the previous letter in the series, namely the Anaya letter, would be of particular significance to Censorship. He also added that Shaw was of the opinion that this letter should be considered not as an exceptional matter but that the Censorship records should reflect the Bureau's Laboratory report as if the Bureau's Laboratory had developed the writing in the first instance. He offered a further need for a laboratory report by stating that Censorship intends to make up a submission slip on its findings and that this submission slip should contain as much technical data as is possible.

As you know, after the secret writing was developed by the Office of Censorship, the Bureau Laboratory requested another opportunity to work on the letter and in retesting it was able to develop the secret ink. Censorship feels that the results of this re-examination being affirmative would bring the examination within the scope of the agreement and that the Bureau should, in line with this agreement, offer its findings to Censorship.

Tolson
E. A. Tamm
Clegg
Glavin
Ladd
Nichols
Rosen
Tracy
Acers
Carson
Harbo
Hendon
Mumford
Starke
Quinn Tamm
Nease
Gandy

b7E

ORIGINAL FILED IN

80-604-256

JAN 26 1944

Memorandum for Mr. D. M. Ladd

- 2 -

ACTION:

Wolgemuth was advised that the writer would look into the matter and advise him in the near future of the Bureau's decision in this regard. It is further requested that consideration be given to Censorship's request and the Bureau's decision brought to the attention of the writer so that it may be conveyed to Mr. Philip Wolgemuth.

Respectfully,

W. J. Powell

VHB:FJS

January 21, 1944

80-604-257
[REDACTED]

PERSONAL AND CONFIDENTIAL
VIA DIPLOMATIC AIR POUCH

SIS #244

Francis E. Crosby

Re: Unknown Subject, Alias Esteban
[REDACTED]

Dear Sir:

Reference is made to Bureau letter dated January 18, 1944, in which you were furnished information concerning a letter dated October 29, 1943, from Esteban in Buenos Aires to a drop box in Madrid. The letter contained a secret ink message in five-letter code groups.

For your information, the Laboratory has furnished the following additional comments concerning the letter from Esteban, as well as a previous letter from Buenos Aires signed "Tulio," data concerning which was furnished you in Bureau letter dated December 16, 1943:

b7E

"No conclusion was reached as to whether the typewriting appearing on specimens Q1 and Q2 were prepared on the same typewriter as specimens Q1 and Q2 submitted in the case entitled 'Letter from Tulio to Senor Don Aurelio Lainez Anaya, Calle Narvaez 12, Madrid, Espana.' There are many similar typewriter characteristics in the typewriting on the two letters and envelopes; however, there are variations in the typewriting characteristics in the Anaya letter which are inconsistent with the more constant characteristics on specimens Q1 and Q2 in this case. The variations in the typewriting characteristics could be due to the use of a worn typewriter used under different conditions or by two typists, or they could be due to the use of different typewriters. The signatures on the two letters do not have enough letters in common for adequate comparison.

"The typewriting on the letter and envelope designated as Q1 and Q2 from Tulio to Senor Don Aurelio Lainez Anaya and on Specimens Q1 and Q2 in the above entitled case compares favorably with the Laboratory standards for Continental pica type.

"The conclusion was reached that the handprinting in the secret ink message on the Anaya letter and the handprinting in the secret ink message developed on Q2 in the above entitled case were handprinted by one person.

"The envelope designated as Q1 in the above entitled case is the same type envelope as the one used with the letter from Tulio to Senor Don Aurelio

COMMUNICATIONS SECTION
JAN 21 1944

151-264

Lainez Anaya but differs slightly in dimension. The paper in the letter designated as Q2 in the above entitled case is different from the paper used in the preparation of the Anaya letter."

Very truly yours,

John Edgar Hoover
Director

Federal Bureau of Investigation
United States Department of Justice
Washington, D. C.

January 10, 1944

MEMORANDUM - LABORATORY REPORT

Re: Letter from ~~Esteban~~ to
Senor D. ~~Enrique Pardo Vazquez~~
General Mola 4, 3^o der.
Madrid, Espana.

The evidence listed and described below was received in the Laboratory on November 22, 1943, for examination.

Q1 Pale gray envelope containing no return address or postmark, addressed to "Senor D. Enrique Pardo Vazquez, General Mola 4, 3^o der, Madrid, Espana."

Q2 Accompanying typewritten letter on plain white paper, message beginning "He recibido con la mayor . . . " signed "Esteban".

A visual examination of specimen Q2 prior to testing showed indications of previous secret ink testing. Due to the length of time and technical difficulties involved in reproducing the peculiar watermark in the letter, only those tests which would not permanently alter the appearance of the letter were conducted upon specimen Q2. The results of these tests were negative.

The Office of Censorship reported that they developed a secret ink message in this letter.

Accordingly, specimen Q2 was obtained for further testing. It was successfully simulated on this occasion in order to permit staining of the original if necessary. The additional tests resulted in the development of a faint secret ink message.

The secret ink message, which is in code, is presently under examination in the Cryptanalysis Section.

The typewriting appearing on specimens Q1 and Q2 was searched through the File of Writings pertaining to National Security but no identification was effected. Photographic copies are being added to this file for future reference and comparison.

No conclusion was reached as to whether the typewriting appearing on specimens Q1 and Q2 was prepared on the same typewriter as specimens

80-604-257
JAN 26 1944

b7E

Secret White

ENCLOSURE
attached with original
OK

264

Q1 and Q2 submitted in the case entitled "Letter from ~~Tulio~~ to Senor Don Aurelio ~~Lainez~~ Anaya, Calle Narvaez 12, Madrid, Espana". There are many similar typewriter characteristics in the typewriting on the two letters and envelopes; however, there are variations in the typewriting characteristics in the Anaya letter which are inconsistent with the more constant characteristics on specimens Q1 and Q2 in this case. The variations in the typewriting characteristics could be due to the use of a worn typewriter used under different conditions or by two typists, or they could be due to the use of different typewriters. The signatures on the two letters do not have enough letters in common for adequate comparison.

The typewriting on the letter and envelope designated as Q1 and Q2 from Tulio to Senor Don Aurelio Lainez Anaya and on specimens Q1 and Q2 in the above entitled case compares favorably with the Laboratory standards for Continental pica type.

The conclusion was reached that the handprinting in the secret ink message on the Anaya letter and the handprinting in the secret ink message developed on Q2 in the above entitled case were handprinted by one person.

The envelope designated as Q1 in the above entitled case is the same type envelope as the one used with the letter from Tulio to Senor Don Aurelio Lainez Anaya but differs slightly in dimension. The paper in the letter designated as Q2 in the above entitled case is different from the paper used in the preparation of the Anaya letter.

~~SECRET~~

WAR DEPARTMENT
MILITARY INTELLIGENCE SERVICE
WASHINGTON

b6
b7C

January 13, 1944

RECEIVED FROM DEPUTY
COLONEL
1-14-44
MIS

Drummingham
H. L. [unclear]
Spec. [unclear]
own [unclear]
2252

MEMORANDUM FOR MR. WESLEY TYNOLDS:

Subject: Notes on a New Type of Secret Ink.

The following information has been received regarding a new type of secret writing used by the S.R.A.:

The first is called (by the S. R.A.) "Invisible ink". It is absolutely impermeable.

b3 Per CIA
b7E

To write with this, one must use rather heavy whitish-brown paper, [redacted] Take the paste between the fingers. By blowing with the breath this paste becomes soft. Take a match or a piece of wood, the end of which is flat, and mould the paste on it. Wait a few moments until this paste has hardened. Write in capital letters the secret message. On the reverse side of the paper write the message in the clear.

Composition of the Paste: Mixture of [redacted]

b3 Per CIA
b7E

[redacted]

The second has a base of powdered alum dissolved in water.

Use always rather heavy whitish-brown paper, write the secret message in capital letters with a match or a tooth-pick.

Wait a few moments until the paper is quite dry, [redacted]

b3 Per CIA
b7E

Then write the message in the clear.

The secret message can be revealed by applying heat.

Richard P. Hawes

RICHARD P. HAWES,
Captain, A. U. S.,
Exec. Officer, Evaluation Branch.

Detector and Indicator of Secret Writing



~~SECRET~~



RRR:mkm

Federal Bureau of Investigation
United States Department of Justice
Washington, D. C.

January 17, 1944

MEMORANDUM FOR MR. LADD

RE: VISIT OF JUDGE ALLMAN AND LIEUTENANT
DRUMMOND OF OSS ON NOVEMBER 27, 1943
FOR SECRET INK INSTRUCTION.

Reference is made to the attached memorandum from
Supervisor T. D. Beach of the Laboratory to Mr. Coffey, dated
January 5, 1944, setting forth the substance of the visit of two
OSS representatives concerning instructions in secret ink. It is
noted that JUDGE ALLMAN and LIEUTENANT DRUMMOND agreed to supply to the
Bureau for experimental purposes Chinese type of paper and writing brushes.

Inasmuch as the OSS representatives have not put in an appear-
ance at the Bureau, nor have they supplied the material promised, at the
request of Mr. Parsons in the Laboratory, the writer contacted Mr. Thomas
Dunn of OSS on January 11, 1944 and inquired whether the OSS representatives
anticipated again contacting the Bureau and whether they had obtained the
Chinese paper and brushes mentioned in Mr. Beach's memorandum. Mr. Dunn
informed the writer that he had no knowledge in this matter but would check
on it further to see what could be expected.

To date no reply has been received. This matter will be
followed unless advised to the contrary.

Respectfully,

R. R. Roach

Attachment



5 JAN 29 1944

Mr. Tolson _____
Mr. E. A. Tamm _____
Mr. Clegg _____
Mr. Coffey ✓
Mr. Glavin _____
Mr. Ladd _____
Mr. Nichols _____
Mr. Rosen _____
Mr. Tracy _____
Mr. Acers _____
Mr. Carson _____
Mr. Harbo _____
Mr. Hendon _____
Mr. Mumford _____
Mr. Starke _____
Mr. Quinn Tamm _____
Tele. Room _____
Mr. Nease _____
Miss Beahm _____
Miss Gandy _____

RECORDED COPY FILED IN 62-64429-1

EX-42

180-604-257X1

27 MAY 3 1944



Federal Bureau of Investigation
United States Department of Justice
Washington, D. C.
January 5, 1944

RHC:AWK

80-604

MEMORANDUM FOR MR. COFFEY *JC*

Re: Visit of Judge Allman and Lieutenant
Drummond of OSS on November 27, 1943
for secret ink instruction.

Reference is made to Mr. Roach's memorandum for Mr. Ladd dated November 16, 1943. As a result of the request of Office of Strategic Services which is the subject of reference memorandum, research was conducted for the purpose of producing a simple secret ink to be used in China and having as much security as possible together with simplicity of use and ease of availability. The following substances were considered:

Tobacco	Paraffin
Tea	Rice water

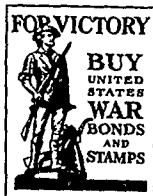
From research it was indicated that tea would probably best serve the purpose.

At the time of the visit of Allman and Drummond they were questioned by Messrs. Stanley and Chambers as to type of materials available, type of persons utilizing the ink, nature of censorship, et cetera, and some of the materials named above were discussed with them. Tea seemed to attract their attention but their interest in the matter seemed rather perfunctory, particularly so with Drummond. Allman worked some with tea as an ink, using [redacted] as developers and both he and Drummond agreed that it would be necessary to experiment with the Chinese type of paper and writing brushes. They agreed to forward samples of both paper and brushes to the laboratory the first of the following week for research purposes. So far none has been received.

At no time were any but well-known secret ink techniques discussed with the OSS men although Allman volunteered that they didn't mind using German secret inks in order to get one suited to their purpose. It is felt these OSS men exhibited more interest in general information than in their specific problem.

Respectfully,

T. D. Beach



Mr. Tolson _____
Mr. E. A. Tamm _____
Mr. Clegg _____
Mr. Coffey _____
Mr. Glavin _____
Mr. Ladd _____
Mr. Nichols _____
Mr. Rosen _____
Mr. Tracy _____
Mr. Acers _____
Mr. Carson _____
Mr. Harbo _____
Mr. Hendon _____
Mr. Mumford _____
Mr. Starke _____
Mr. Quinn Tamm _____
Tele. Room _____
Mr. Nease _____
Miss Beahm _____
Miss Gandy _____

b3 Per CIA
b7Eb3 Per CIA
b7ECOORDINATING
ENCLOSURE

EX-4227 MAY 3 1944

J

M. J. B.

80-604-2571

DIRECTOR



JPS:AWK
80-604

Federal Bureau of Investigation
United States Department of Justice
Washington, D. C.

December 14, 1943

MEMORANDUM FOR MR. COFFEY

Re: Secret Ink Summary

There is attached hereto a paper entitled "The Development of Secret Ink".

This paper was prepared by Mr. Stanley at my request and discusses in outline fashion the various tests used in this laboratory for the detection and development of secret ink. In particular this paper discusses the limitations and advantages of these tests in regard to their application to the detection and development of secret inks known or reported to be used by the enemy.

Respectfully,

T. D. Beach

T. D. Beach



CG-287a

Mr. Tolson _____
Mr. E. A. Tamm _____
Mr. Clegg _____
Mr. Coffey _____
Mr. Glavin _____
Mr. Ladd _____
Mr. Nichols _____
Mr. Rosen _____
Mr. Tracy _____
Mr. Carson _____
Mr. Harbo _____
Mr. Hendon _____
Mr. Mumford _____
Mr. Piper _____
Mr. Starke _____
Mr. Quinn Tamm _____
Tele. Room _____
Mr. Nease _____
Miss Beahm _____
Miss Gandy _____

80-604-247	
B	I
7	DEC 27 1943

EX-21

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JAN 1